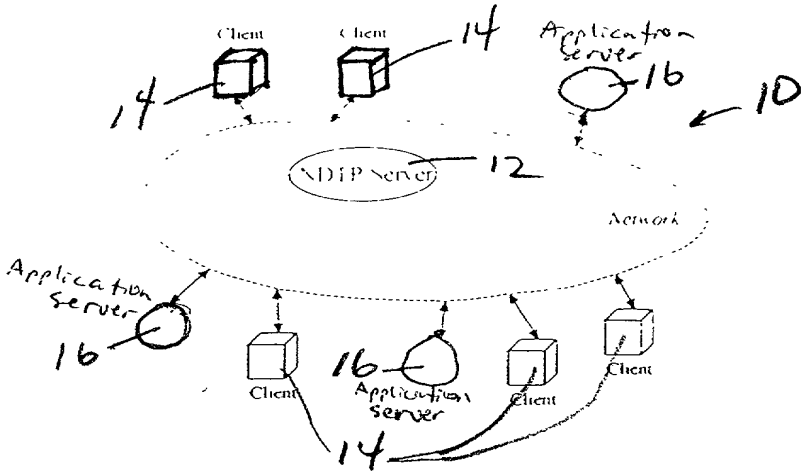
FIG. 1



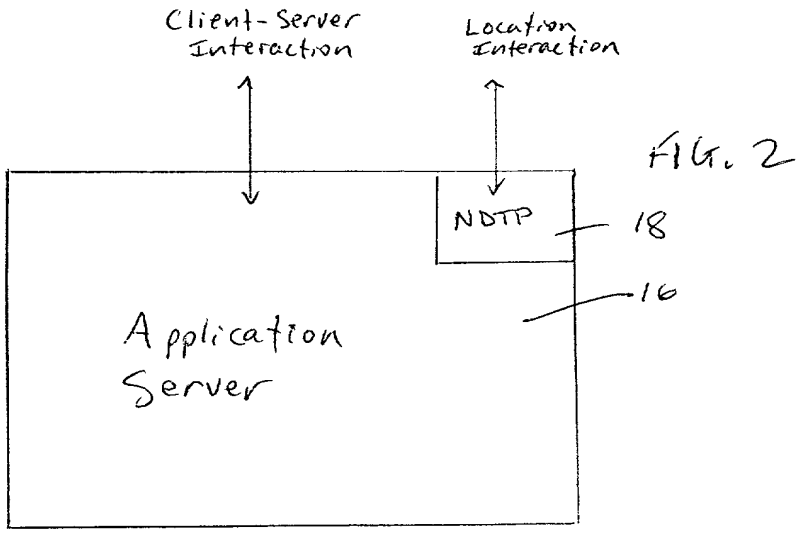




FIG. 2

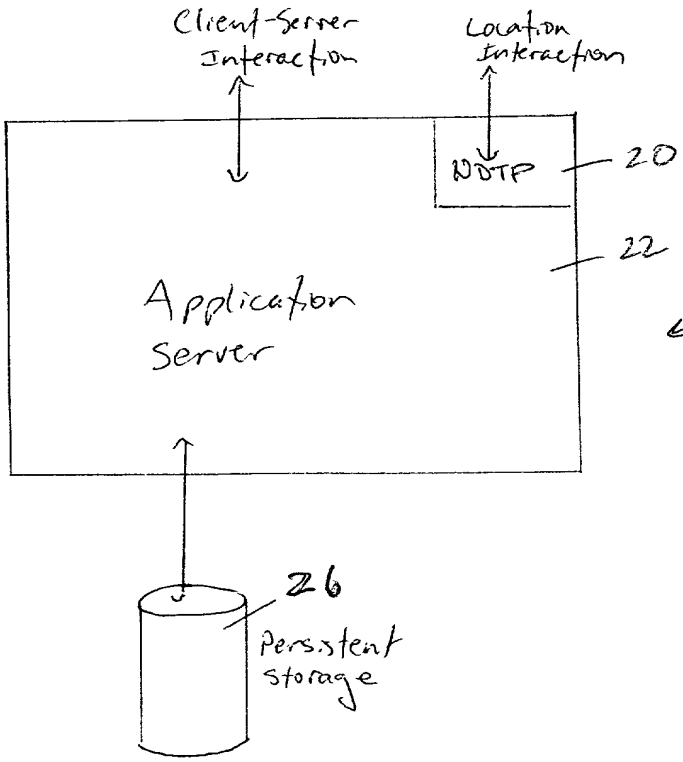



FIG. 3

FIG. 4

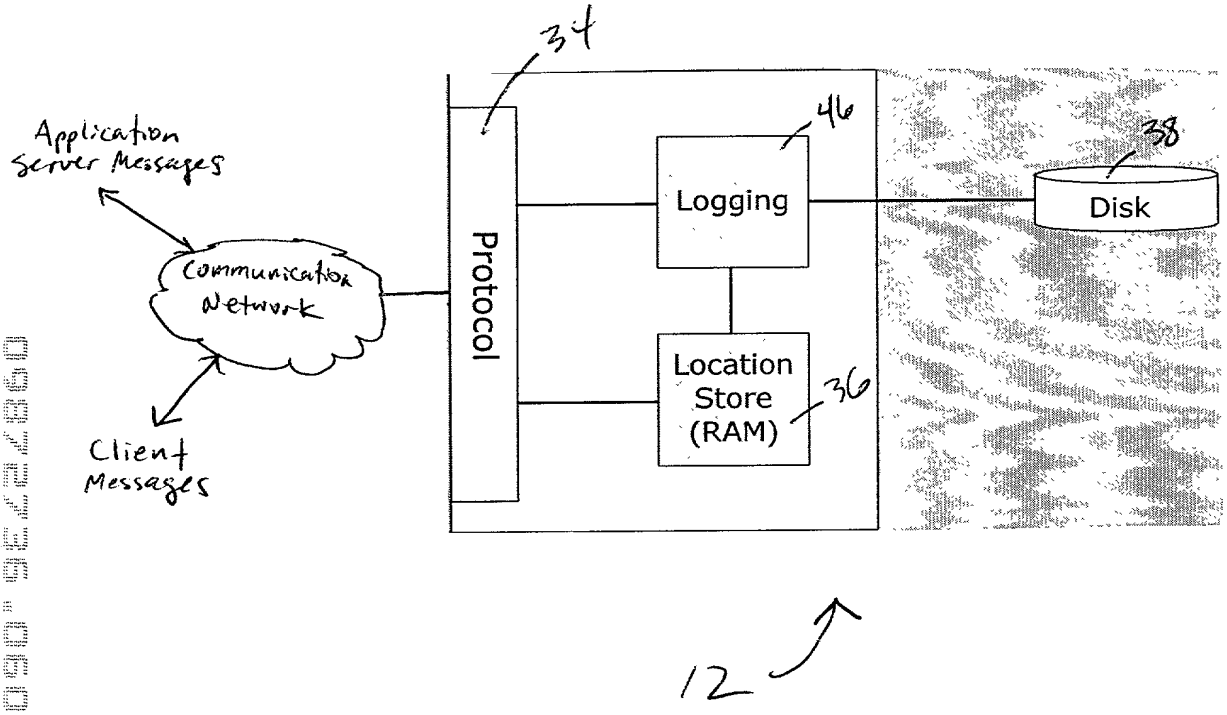

34
Application Server Messages
Communication Network
Client Messages
Protocol
Logging
46
Location Store (RAM)
36
Disk
38
12

FIG. 5

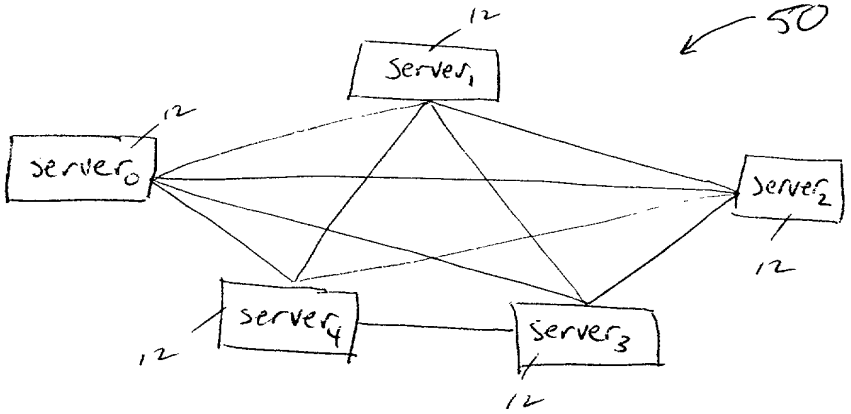
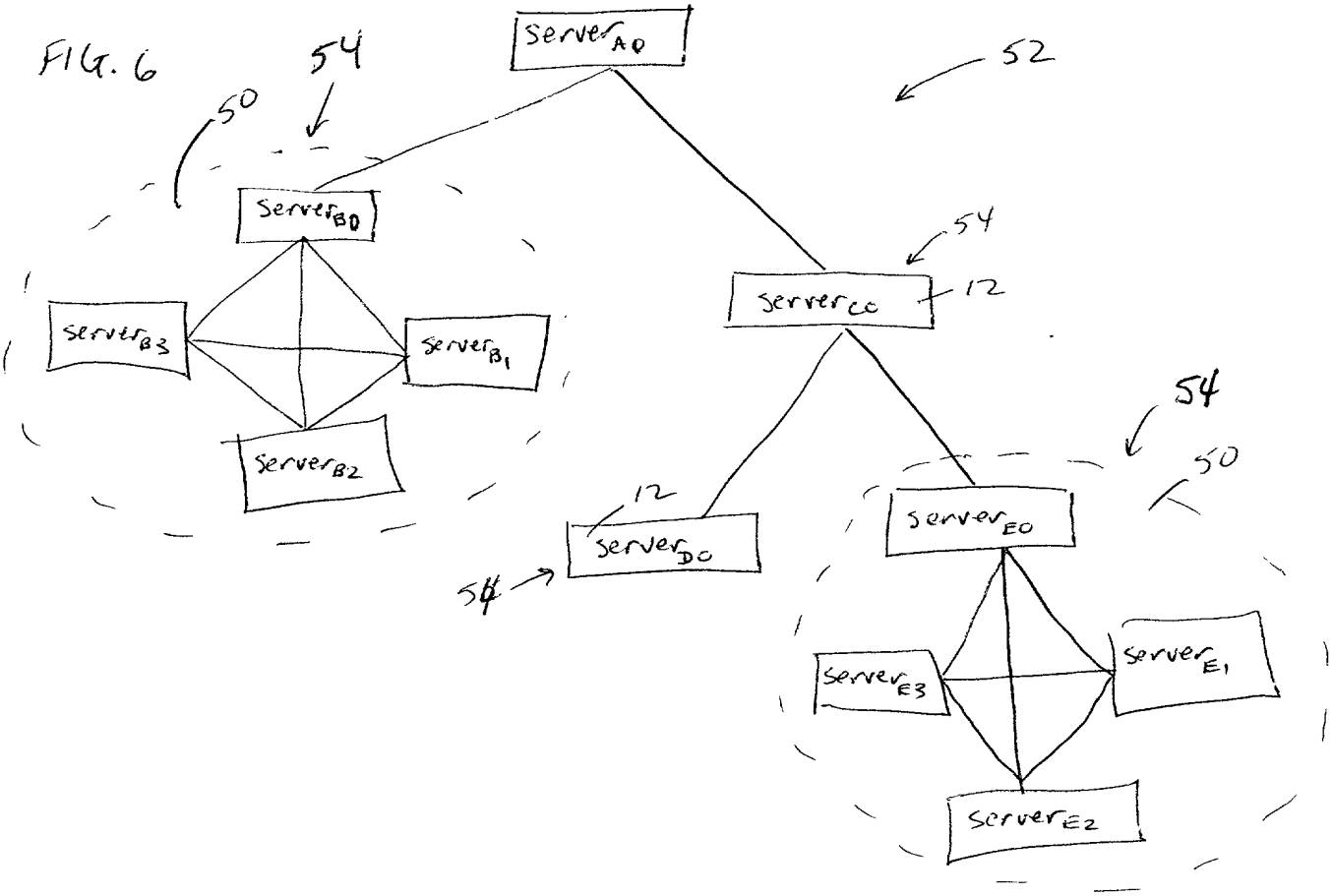

50
12
server$_1$
server$_0$
server$_2$
server$_4$
server$_3$

FIG. 6


server$_{A0}$
52
54
50
server$_{B0}$
server$_{B3}$
server$_{B1}$
server$_{B2}$
server$_{C0}$
12
server$_{D0}$
server$_{E0}$
server$_{E3}$
server$_{E1}$
server$_{E2}$

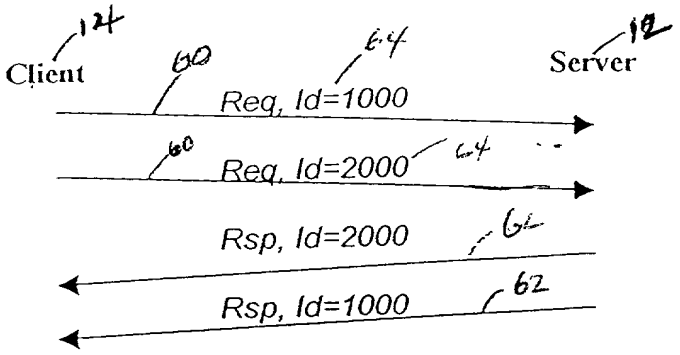



FIG. 7 - Use Of Request Identifiers

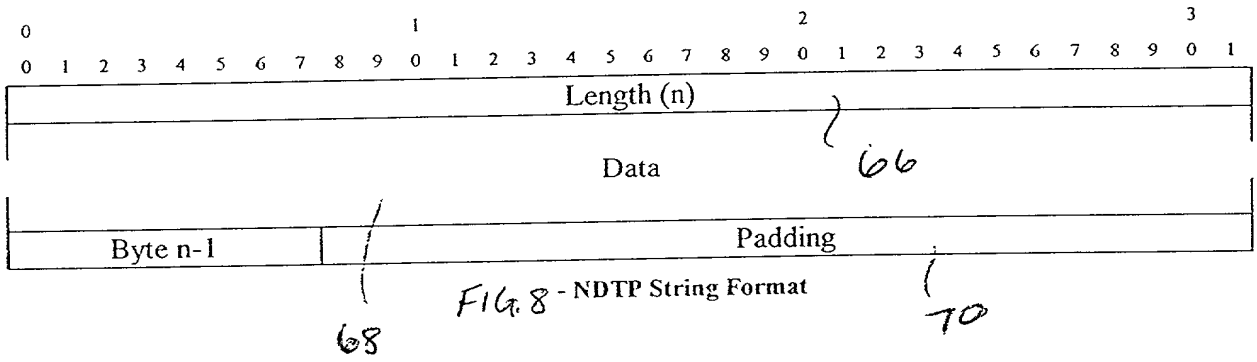



FIG. 8 - NDTP String Format

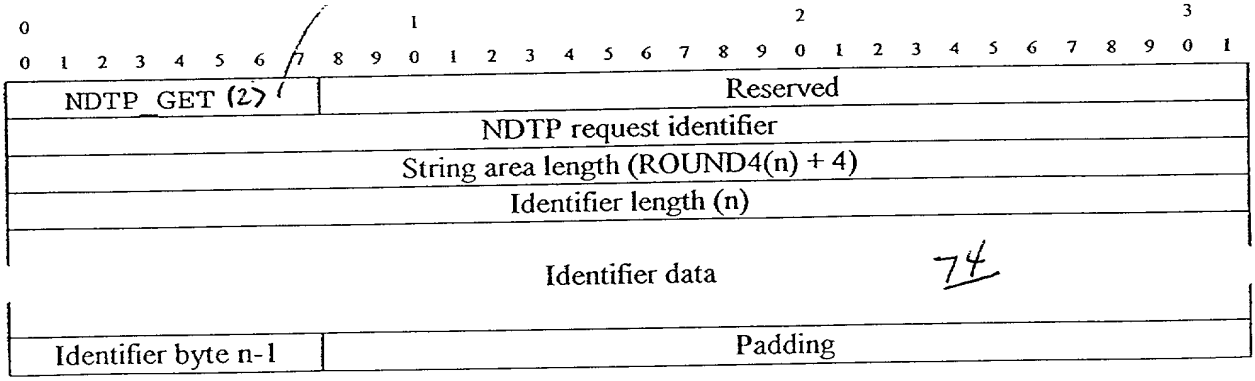



FIG. 9 - NDTP_GET Format

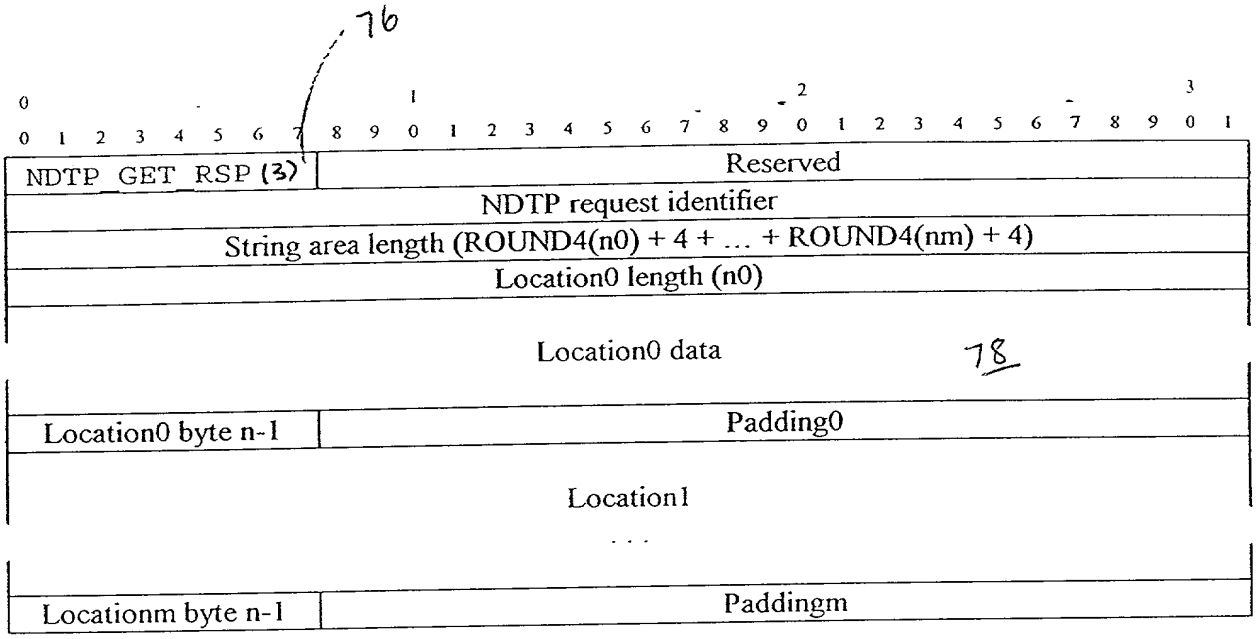



FIG. 10 - **NDTP_GET_RSP Format**

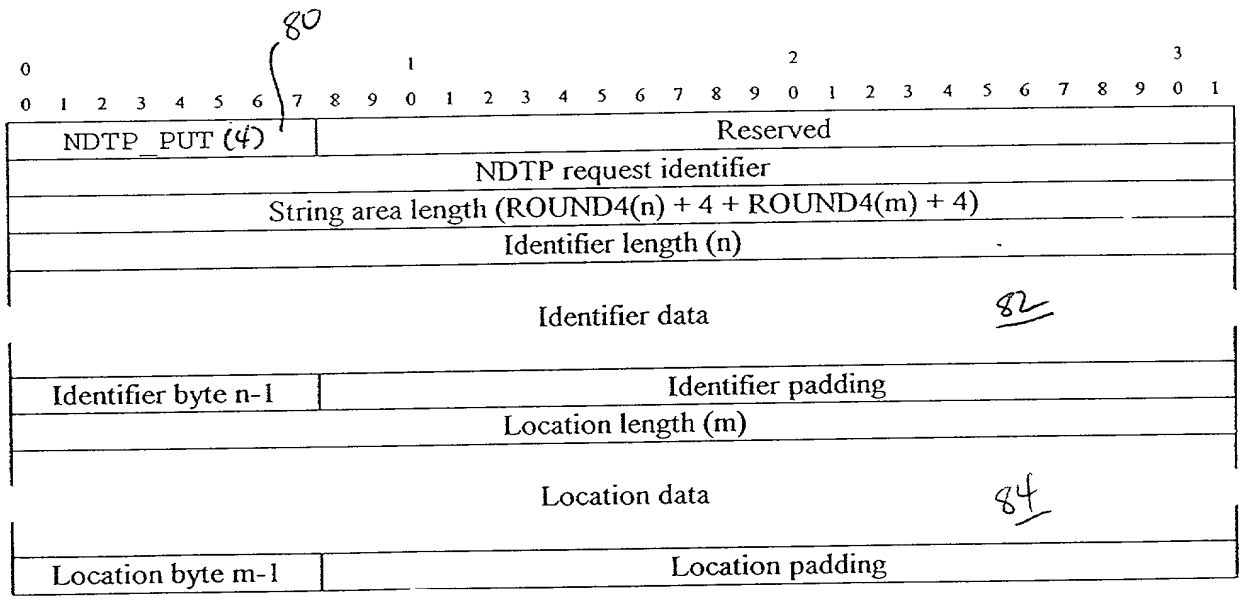



FIG 11 - **NDTP_PUT Format**

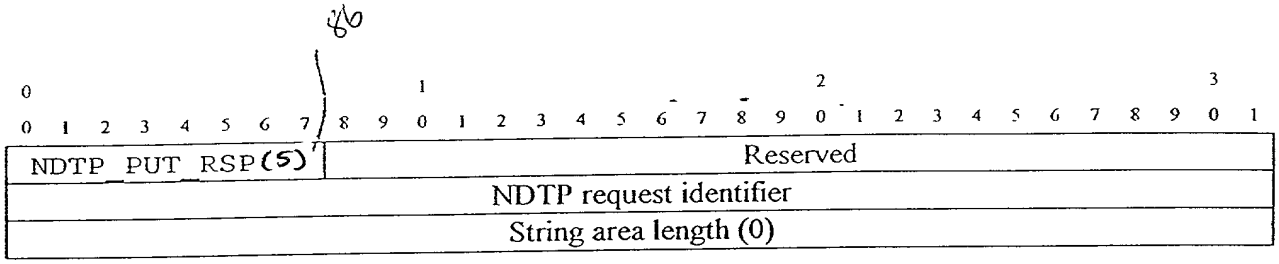



FIG. 12 **NDTP_PUT_RSP Format**

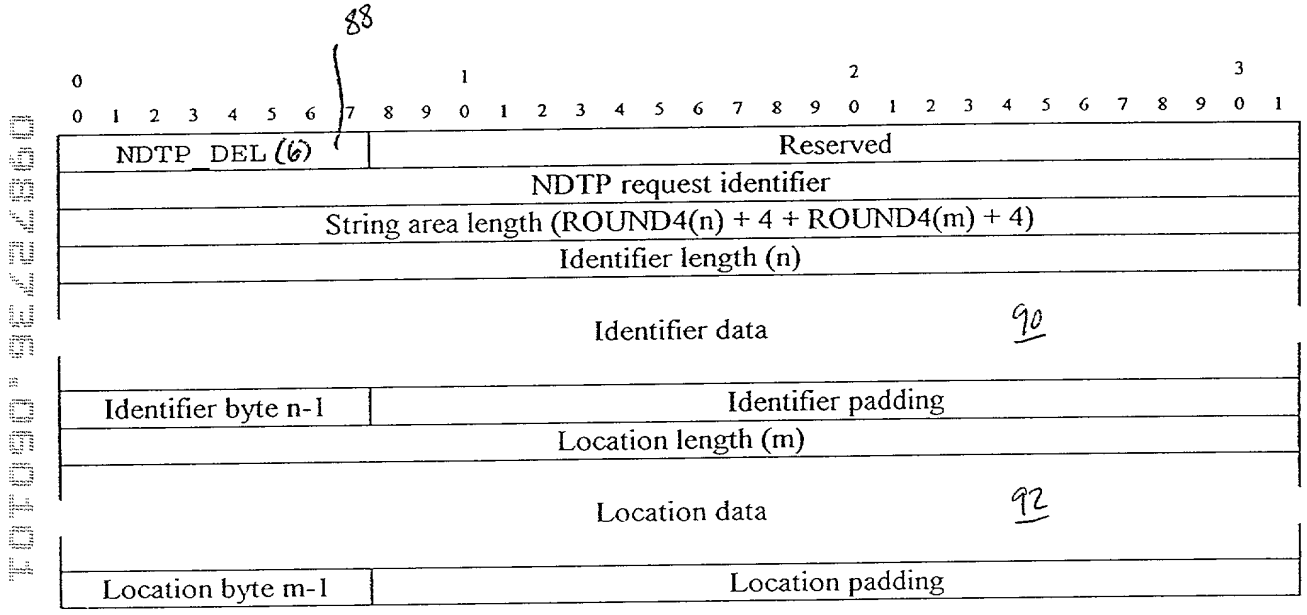



FIG. 13 **NDTP_DEL Format**

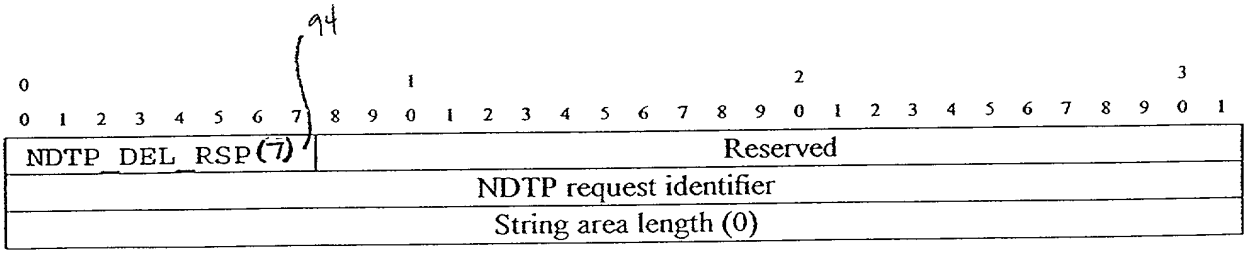



FIG. 14 **NDTP_DEL_RSP Format**

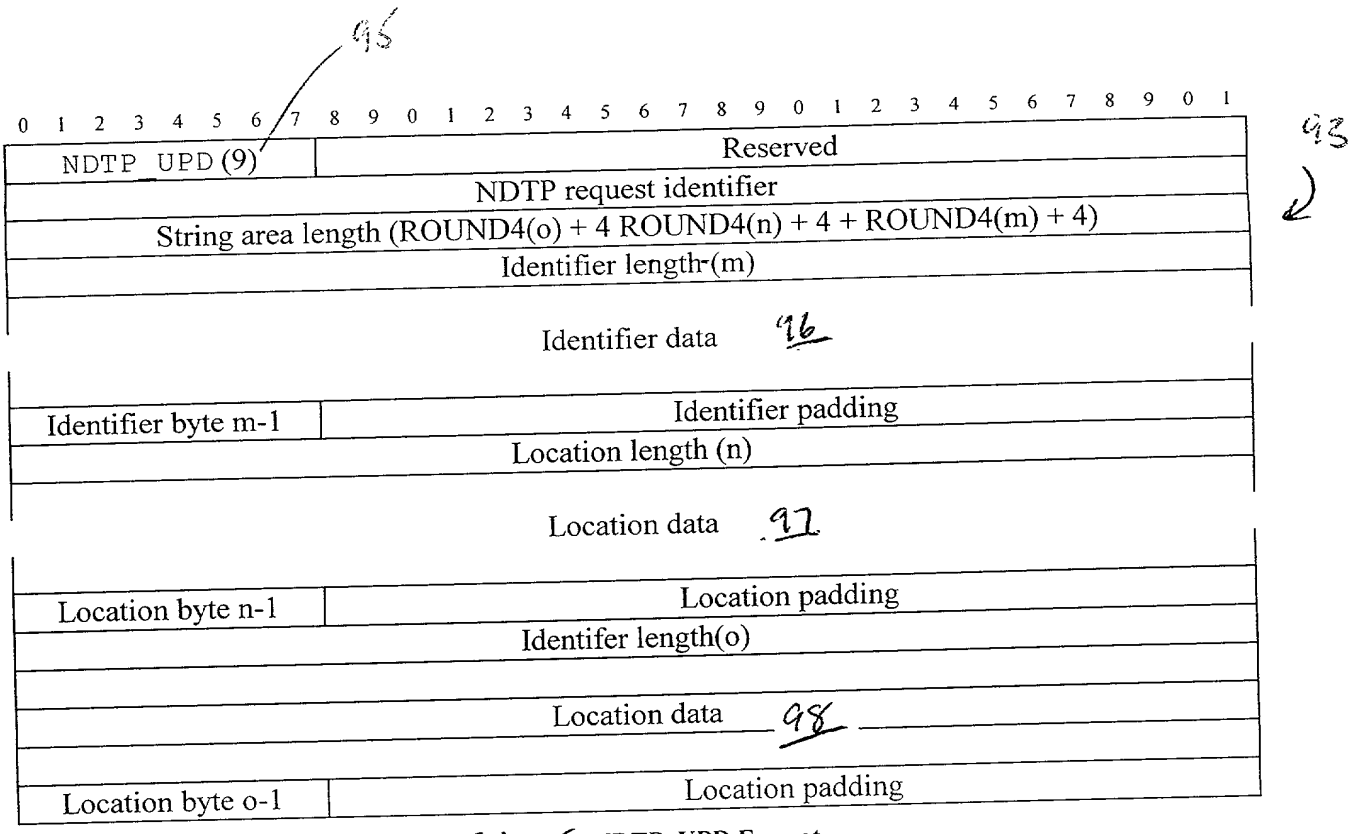



FIG. 15 - **NDTP_UPD Format**

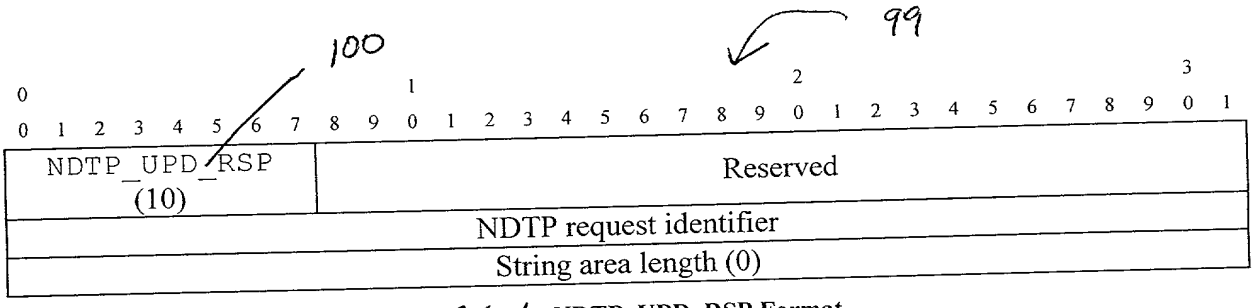
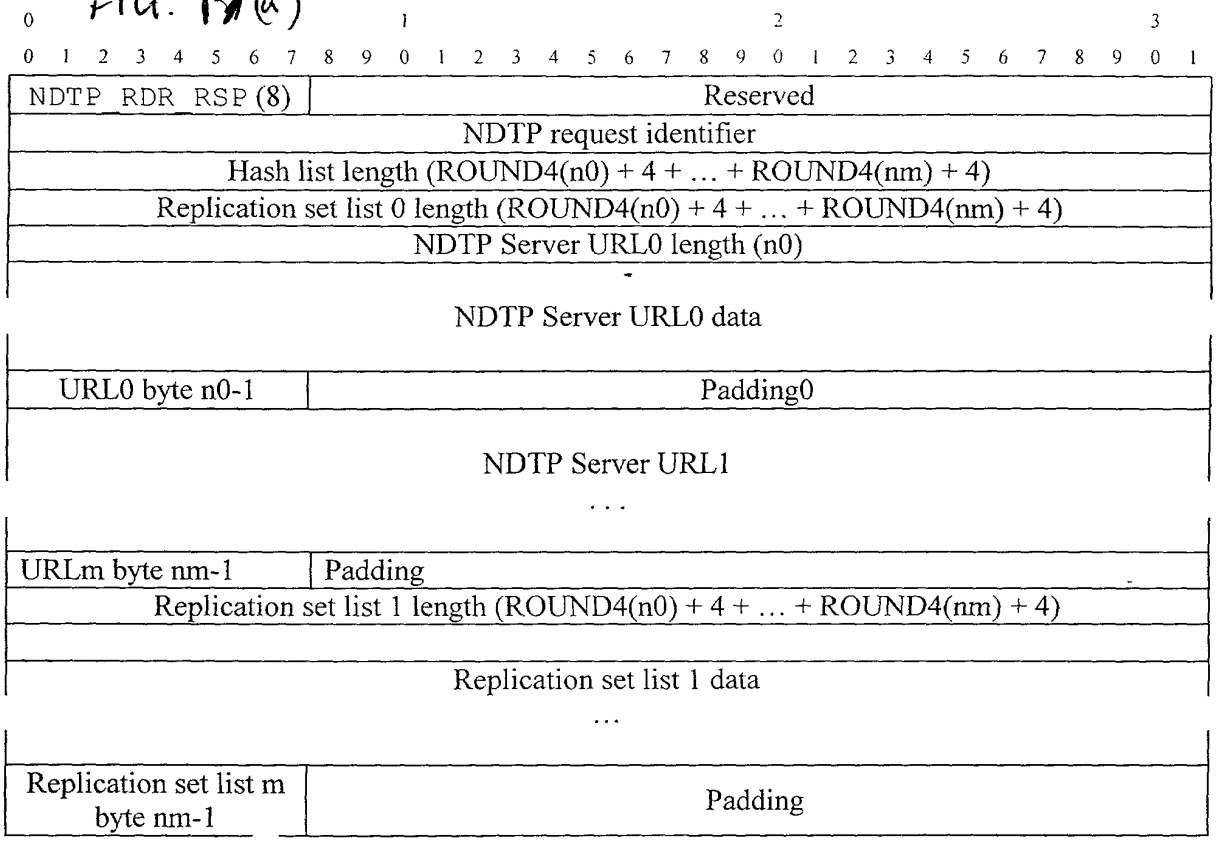


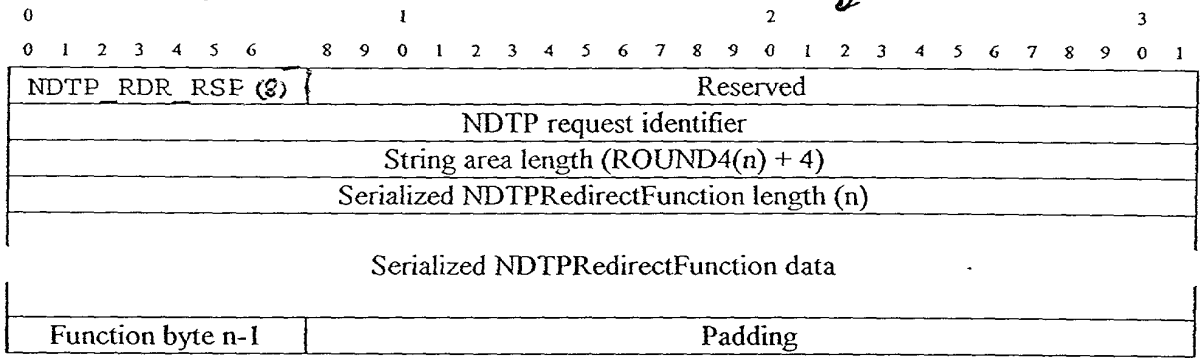

FIG. 16 - **NDTP_UPD_RSP Format**

FIG. 17(a)




101

FIG. 17(b)




103

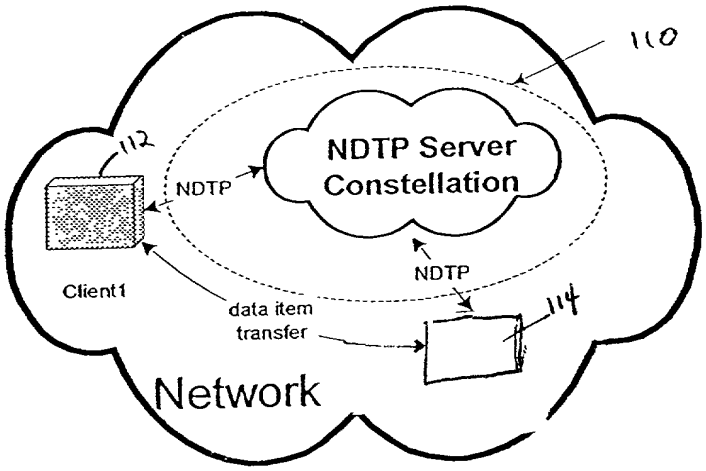

110
NDTP Server Constellation
112
NDTP
Client1
data item transfer
NDTP
114
Network

FIG. 18

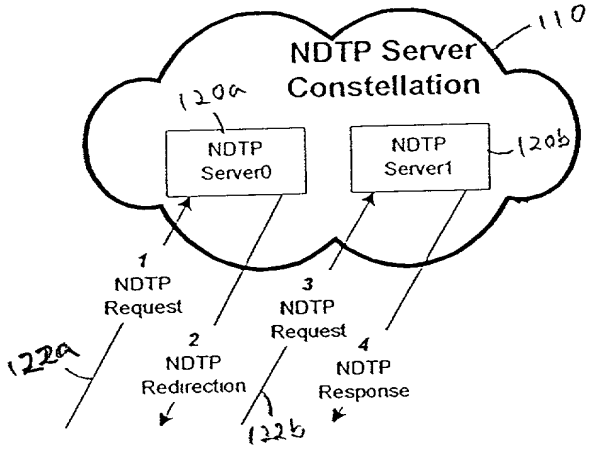

110
NDTP Server Constellation
120a
NDTP Server0
NDTP Server1
120b
1 NDTP Request
2 NDTP Redirection
3 NDTP Request
4 NDTP Response
122a
122b

FIG. 19

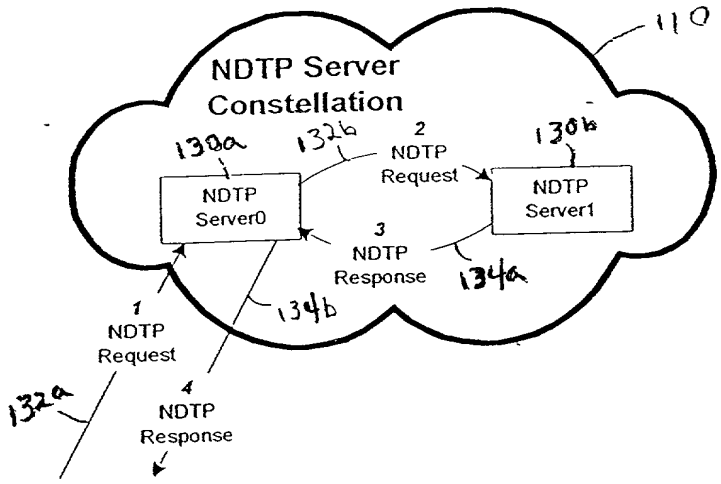
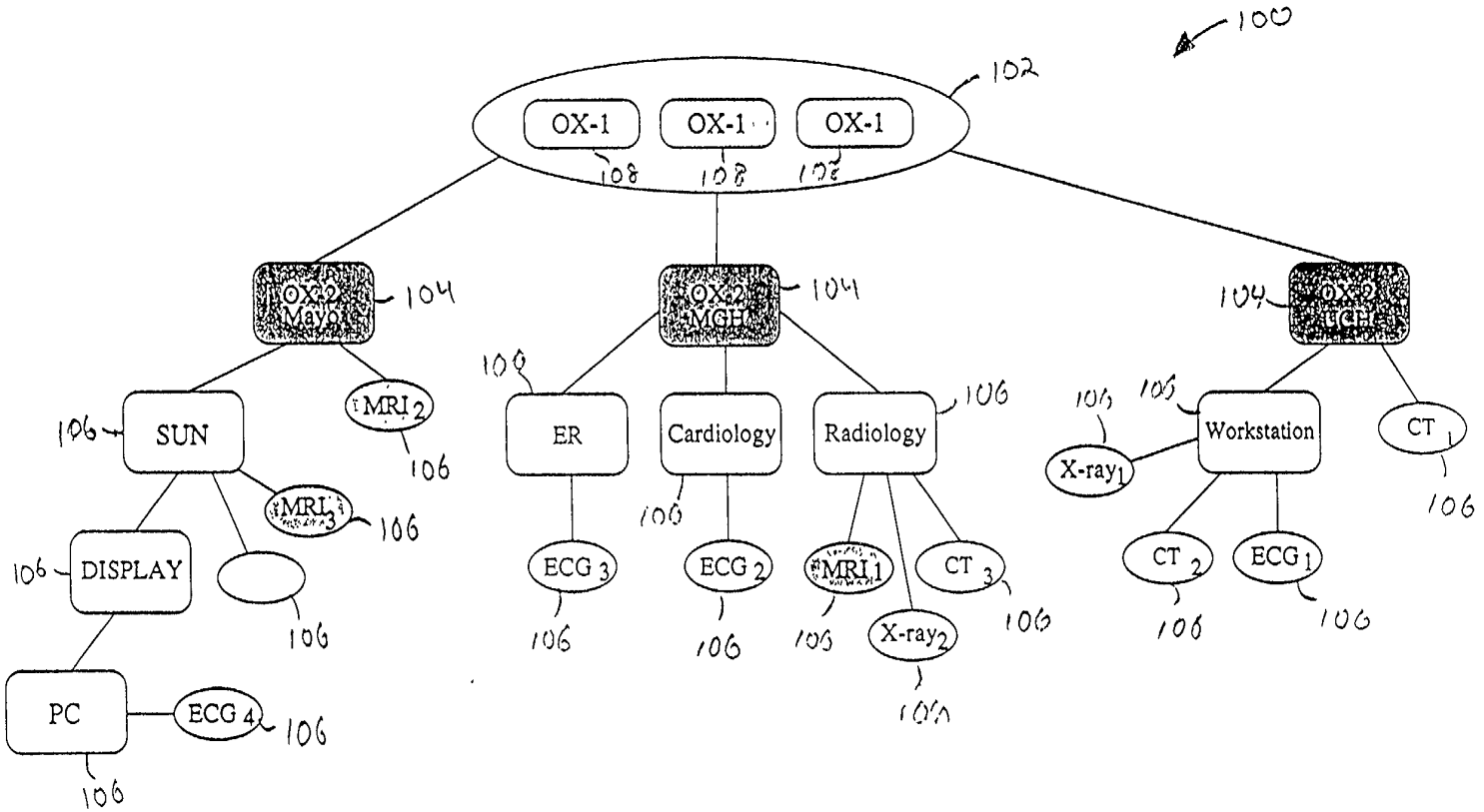

110
NDTP Server Constellation
130a
132b
2 NDTP Request
130b
NDTP Server0
NDTP Server1
3 NDTP Response
134a
134b
1 NDTP Request
132a
4 NDTP Response

FIG. 20

FIG. 21

Network Distributed Tracking

**Distributed Record Retrieval**



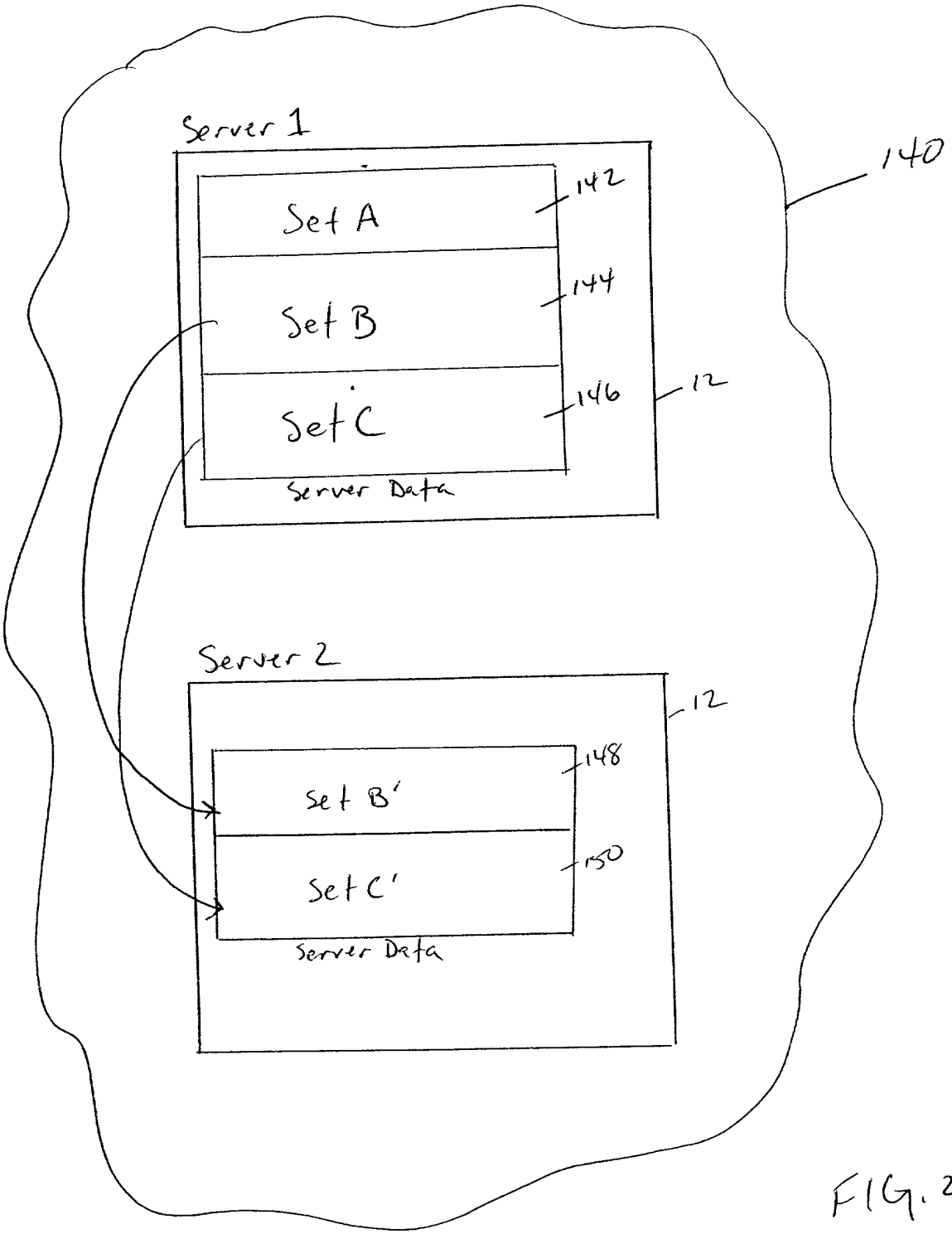

Server 1
140
142
Set A
144
Set B
146
Set C
12
Server Data
Server 2
12
148
Set B'
150
Set C'
Server Data

FIG. 22

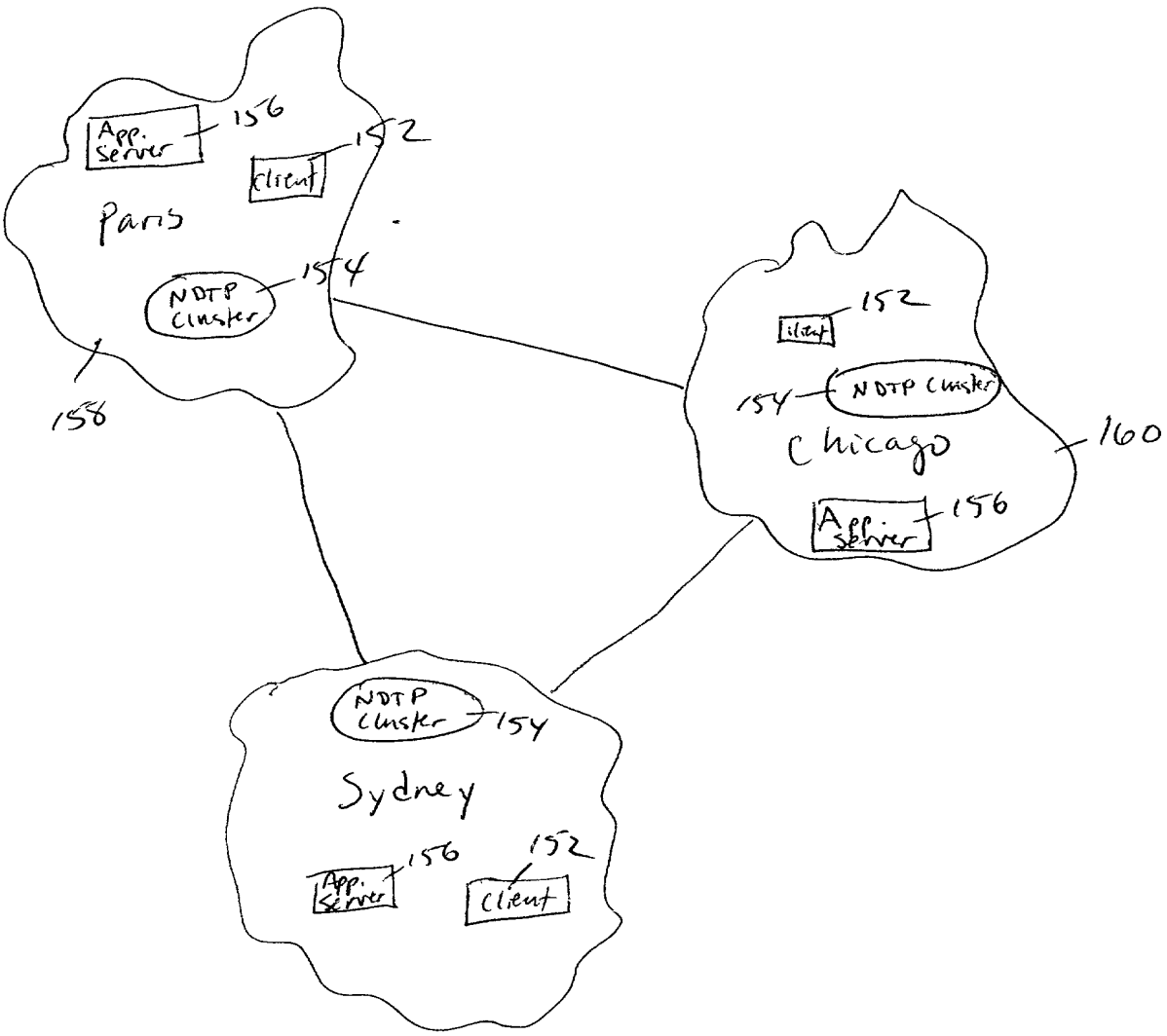

App. Server
156
152
client
Paris
NDTP Cluster
154
158
client
152
154
NDTP Cluster
Chicago
160
App. Server
156
NDTP Cluster
154
Sydney
App. Server
156
client
152

FIG. 23

FIG. 24

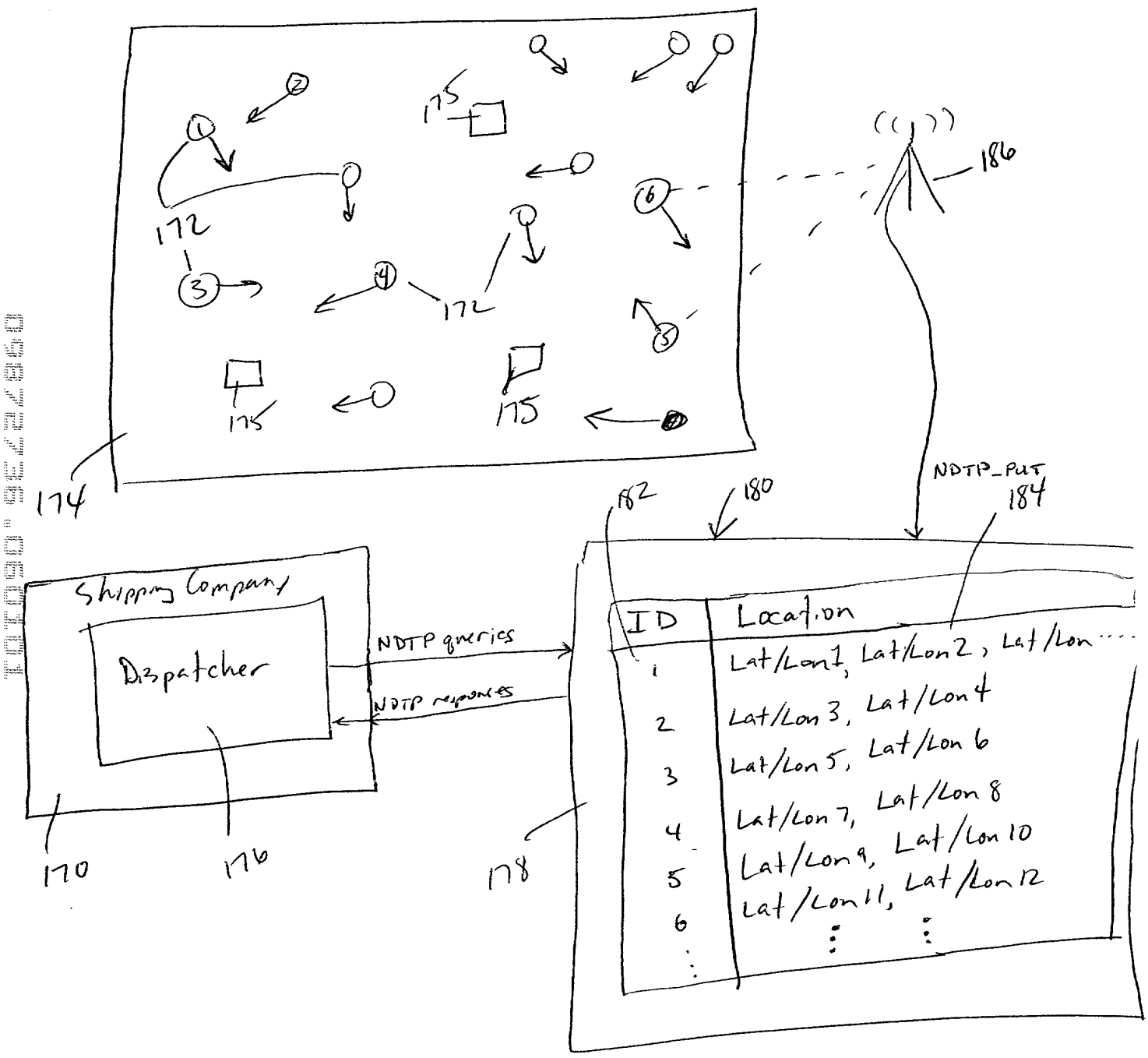

1
2
3
4
5
6
172
172
175
175
175
174
186
NDTP_PUT
184
182
180
Shipping Company
Dispatcher
NDTP queries
NDTP responses
170
176
178
ID
Location
1
Lat/Lon1, Lat/Lon2, Lat/Lon....
2
Lat/Lon3, Lat/Lon4
3
Lat/Lon5, Lat/Lon6
4
Lat/Lon7, Lat/Lon8
5
Lat/Lon9, Lat/Lon10
6
Lat/Lon11, Lat/Lon12

FIG. 25

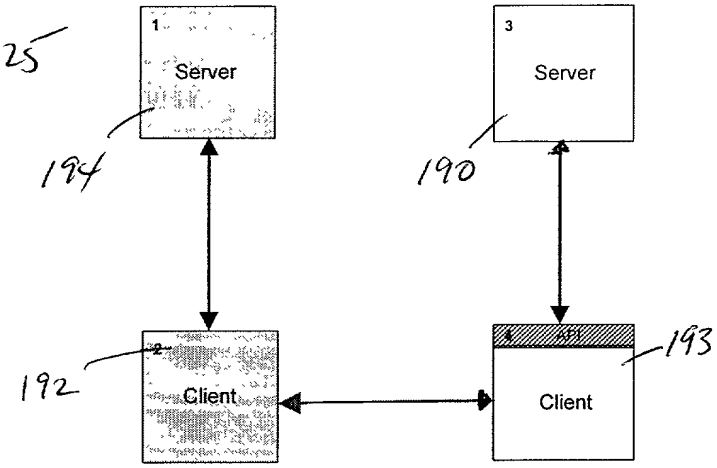
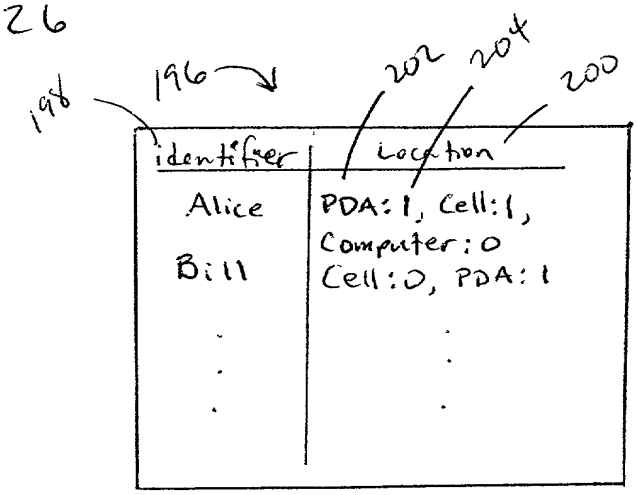

1
Server
3
Server
194
190
192
2
Client
Client
193

FIG. 26


198
196
202
204
200
identifier
Location
Alice
PDA: 1, Cell: 1,
Computer: 0
Bill
Cell: 0, PDA: 1